where there are appropriate facilities, in all patients with recurrent variceal haemorrhage.

Intrahepatic portosystemic shunts were first created experimentally by Rosch in 1969.[1] The first human studies were reported in 1982 by Colapinto *et al.*[2] Interest in the technique has been revived by the introduction of metal stents to maintain shunt patency.[3] In this procedure a suitable hepatic vein is selectively cannulated through an internal jugular vein approach, and hepatic venography is performed. Under ultrasound control a needle is advanced into a portal vein branch and the track is dilated with an angioplasty balloon. A metal stent is then deployed across the tract to maintain patency. Decompression of the portal tract is immediate.

La Berge *et al*[4] have suggested that TIPS is of benefit in patients with acute variceal haemorrhage, and is associated with an acceptable morbidity and mortality. It offers immediate control of bleeding, and rebleeding is uncommon as long as the shunt remains patent. Patency at two years is up to 80%.[5] It can be performed, under general anaesthetic or with sedation, on very unfit patients. The reported risk of encephalopathy is low and depends on shunt size.[6] Surgical access for subsequent hepatic transplantation is not impeded by previous TIPS.

The role of TIPS needs to be defined by prospective studies and longer follow up. Comparative studies are needed with both traditional portosystemic shunts and with endoscopic sclerotherapy. At present we offer TIPS to patients who have rebled despite variceal injection sclerotherapy and before performing either oesophageal transection or a surgical portosystemic shunt. If further studies confirm initial promise it is possible that TIPS may become the treatment of choice for the management of complicated portal hypertension.

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Reply

EDITOR,—Although our leading article did not really concern the technical details of portosystemic shunt construction we were interested in the results of Pugh and Sissons who have used the new procedure of TIPS. We have also been impressed with this technique, which was recently introduced into our hospital by Dr J Karani, and it has provided us with a valuable addition to the range of procedures that are necessary for the comprehensive management of all types and complications of portal hypertension.

TIPS is, of course, not applicable to the management of patients with extrahepatic portal hypertension or to infants and children. The technique may also fail in approximately 10% of patients because of unusual intrahepatic anatomy, particularly in the distribution of the hepatic veins. Contraindications also include severe coagulopathy, polycystic liver disease, and hepatic neoplasms.[1]

TIPS is still under evaluation but we believe that the guidelines for its use should not differ appreciably from those enumerated in our article for more conventional surgical portosystemic shunting. The risk of post shunt encephalopathy, clearly documented in the early days of shunt surgery, remains a significant hazard in the patient with cirrhosis and has already been recorded in 10–20% of patients who have been treated with an intrahepatic shunt.[1] We are convinced that TIPS should not displace injection sclerotherapy as the primary treatment for bleeding oesophageal varices except, perhaps, in the case of a bleeding adult patient with cirrhosis awaiting transplantation.

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BOOK REVIEWS

The puzzle people: memoirs of a transplant surgeon. By Thomas E Starzl. (Pp 364; illustrated; $24.95.) Pittsburgh: University of Pittsburgh Press, 1992.

Dr Thomas Starzl is a living legend, a man who has made outstanding contributions to transplant surgery by the continuous one directional pursuit of each objective as it came into his focus. He has been successful in overcoming both surgical and immunological difficulties in organ grafting. He has a powerful, mesmeric personality, and an almost unbelievable capacity for hard work.

The writing of an autobiography usually marks the end of an active career but this is certainly not the case for Dr Starzl. Although no longer operating, he is still actively engaged in research and has recently directed the two transplant operations from baboon to man, and he continues to produce more papers in scientific journals than any other writer. His father was a journalist and this may have influenced Starzl in his delight and facility in the use of words. The book is well written and entertaining both for the medical and lay reader as would be expected by someone who has achieved such eminence in his profession. Starzl's early scholastic record was excellent and he achieved outstanding grades in all the subjects that he took.

The story responsible for the title *The puzzle people* is centred on Starzl's life work in transplantation, particularly of the liver and this is appropriate as Starzl performed the first liver graft in man in 1963. Despite terrible results with the early clinical cases, Starzl persisted and eventually succeeded with good results following the introduction of the immunosuppressive drug cyclosporin. Liver transplantation has been accepted as the main treatment option for those with end stage liver disease and the results are constantly improving. The longest survivor in the world is a patient of Dr Starzl's, now 23 years since her operation and for the last 18 years she has had no immunosuppressive drugs. The patients are 'puzzle people' in the sense that they contain pieces from other individuals. As far as the doctors and nurses who look after the patients are concerned, the challenge has always been severe and they still understand only part of the story of what causes graft rejection and how it can be controlled.

Until he was head of his own unit, Dr Starzl did not seem to stay anywhere for very long, probably because of his exceptional abilities that frightened off people with less capacity for hard work and dedication, which would apply to almost everybody else in surgery. It is not surprising that with a life so specifically targeted, normal family relations were not easy to fit into the work programme and some aspects of this are covered in the book. In the main, however, it is a story of facing and overcoming enormous surgical hurdles and well orchestrated attempts of hospital and university administrators to block specifically his progress.

To the rest of the transplant community, Dr Starzl is an innovator with a keen intellect, an almost photographic memory and a determination to succeed. He worked for years in the laboratory, developing a surgical method of transplanting the liver in the dog. Independently, Dr Moore in Boston was pursuing the same aim. Both achieved success with somewhat different technical solutions to the physiological disturbance that follows clamping the portal and caval circulations. To remove the liver from the recipient it is necessary to obstruct the portal and inferior caval veins, which causes a rapid and damaging rise of blood pressure in the dammed up circulation. The bowels become congested and cynosed and when relapsed into the circulation, the acidic stagnant blood, high in potassium ions, is likely to cause cardiac arrest. Both Starzl and Moore decided that orthotopic liver transplantation could not be possible unless blood was shunted from the portal vein and inferior vena cava to the superior caval drainage system, thus decompressing the clamped vessels when the recipient liver was removed and the donor liver was sewn in place. It was only after successful decompression that survivors with liver grafts could be studied. At the same time, Starzl was one of the early pioneers of kidney transplantation working in Denver with Dr Waddell.

I first met Dr Starzl in 1961 when he was recording multiple observations in kidney transplant patients using a large flow sheet. This longitudinal analysis of the progress of patients proved to be extremely valuable and has now been adopted by all transplant units all over the world. He was enthusiastic in the use of corticosteroids in addition to azathioprine as the main method of immunosuppression used at that time and the programme from Denver was very active with large number of cases and good results.

Starzl is a man with extremes of enthusiasm; at one time for smoking cigarettes in prodigious numbers so as to form huge pyramids of stub